

SEPARATION OF POLYMER PARTICLES AND VAPORIZED DILUENT IN A CYCLONE

ABSTRACT

[72] An olefin polymerization process wherein monomer, diluent and catalyst are circulated in a continuous loop reactor and product slurry is withdrawn and passed through a heated conduit to a cyclone. The cyclone allows better separation of vaporized diluent. In a preferred embodiment, the slurry is heated in a flashline heater so that a high percentage of the withdrawn diluent is vaporized. The vaporized diluent and concentrated intermediate product are passed to a cyclone where a majority of the vaporized diluent is separated and thereafter condensed by heat exchange, without compression, and recycled to the reactor. Also an apparatus for separating vaporized diluent and polymer particles using a cyclone.